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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,513	11/30/2001	Gregory T. Noren	1662-50500 JMH (P99-2795)	6516

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EXAMINER

CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,513

Applicant(s)

NOREN, GREGORY T.

Examiner

Chongshan Chen

Art Unit

2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-29 are pending in this Office Action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 31 March 2005 has been entered.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

MPEP 2106 IV. B.2. (b)

A claim that requires one or more acts to be performed defines a process. However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts.

Art Unit: 2162

Claims 1-16, in view of the above cited MPEP section, are not statutory because they merely recite a number of computing steps without producing any tangible result and/or being limited to a practical application within the technological arts. The use of a computer has not been indicated.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 8-12, 17, 18, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al. (hereinafter "Parker", US 6,366,930 B1) in view of Kakumani et al. (hereinafter "Kakumani", US 6,681,382 B1).

As per claim 1, Parker discloses a method of backing up a file, comprising:

- (a) making a change to an original version of a file thereby creating a new version of the file (Parker, col. 2, lines 3-67, "changed file");
- (b) saving said new version (Parker, col. 2, line 23, "storing the current version");
- (c) computing a transformation operator, the transformation operator is indicative of the differences between the original version of the file and the new version (Parker, col. 2, lines 21-67, "computing the differences between the two previous and current versions to provide a forward delta and reverse delta");

(d) saving said transformation operator (Parker, col. 2, lines 23-24, “storing ... the reverse delta of the changed file”); and

(e) applying the transformation operator on the new version of the file in order to recover the original version of the file (Parker, col. 2, lines 30-34, “to restore any requested file if it is located on-site by recovering the current version and subtracting the appropriate reverse deltas therefrom until the requested file is produced”).

Parker teaches computing the transformation operator (Parker, col. 2, lines 55-62), but does not explicitly disclose the transformation operator is computed immediately upon the new version being saved. Kakumani teaches the transformation operator is computed immediately upon the new version being saved (Kakumani, col. 2, lines 19-23). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Parker by computing the transformation operator immediately upon the new version being saved (Kakumani, col. 2, lines 19-23). The motivation being to compute and save all the successive transformation operators between the changed files.

As per claim 2, Parker and Kakumani teach all the claimed subject matters as discussed in claim 1, and further teach saving said transformation operator in a separate file (Parker, col. 2, lines 18-67).

As per claim 3, Parker and Kakumani teach all the claimed subject matters as discussed in claim 2, and further teach said separate file containing said transformation operator is stored on a storage medium that also contains said new file version (Parker, col. 2, lines 18-67).

As per claim 8, Parker and Kakumani teach all the claimed subject matters as discussed in claim 1, and further teach making a further change to said new file version to create a second

Art Unit: 2162

new file version, saving said second new file version, computing a second transformation operator which is indicative of the differences between the new file version and the second new file version, and saving said second transformation operator (Parker, col. 2, lines 18-67).

As per claim 9, Parker and Kakumani teach all the claimed subject matters as discussed in claim 1, and further teach making a further change to said new file version to create a second new file version, saving said second new file version, computing a second transformation operator which is indicative of the differences between the original file version and the second new file version, and saving said second transformation operator (Parker, col. 2, lines 18-67).

Claims 10-12, 17, 18 and 23-25 are rejected on grounds corresponding to the reasons given above for claims 1-3 and 8-9.

7. Claims 4, 13, 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al. (hereinafter "Parker", US 6,366,930 B1) in view of Kakumani et al. (hereinafter "Kakumani", US 6,681,382 B1) and further in view of Wescott (US 6,223,323 B1).

As per claim 4, Parker and Kakumani teach all the claimed subject matters as discussed in claim 3, except for explicitly disclosing said storage medium comprises a RAID storage subsystem. Wescott teaches a RAID storage subsystem (Wescott, col. 1, lines 24-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Parker and Kakumani's combined system by using a RAID storage subsystem as disclosed by Wescott (Wescott, col. 1, lines 24-31). The motivation being to improve performance and reliability of the storage system.

Claims 13, 19, and 26 are rejected on grounds corresponding to the reasons given above for claim 4.

Art Unit: 2162

8. Claims 5-7, 14-16, 20-22 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al. (hereinafter "Parker", US 6,366,930 B1) in view of Kakumani et al. (hereinafter "Kakumani", US 6,681,382 B1) and further in view of Lash (Pub. No.: US 2002/0188665 A1).

As per claim 5, Parker and Kakumani teach all the claimed subject matters as discussed in claim 1, and further teach computing the difference between the old and new version of the file (Parker, col. 2, lines 18-67). Parker does not explicitly disclosing said transformation operator includes a difference value, said difference value being the difference between a numerical value in the original file version and a numerical value in the new file version. Lash teaches said transformation operator includes a difference value, said difference value being the difference between a numerical value in the original file version and a numerical value in the new file version (Lash, page 5, [0053]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the difference file of Parker by incorporating the difference of numerical value of the old and new version of file as disclosed by Lash (Lash, page 5, [0053]) in the difference file of Parker. The motivation being to identify the difference between numerical values in the old and new version of file.

As per claim 6, Parker and Kakumani teach all the claimed subject matters as discussed in claim 1, and further teach computing the difference between the old and new version of the file (Parker, col. 2, lines 18-67). Parker does not explicitly said transformation operator includes words or binary encoded values that have been deleted from the original file version to produce the new file version. Lash teaches said transformation operator includes words or binary encoded values that have been deleted from the original file version to produce the new file

version (Lash, page 5, [0053]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the difference file of Parker by including information whether words or binary encoded values that have been deleted from the original file to produce the new file as disclosed by Lash (Lash, page 5, [0053]). The motivation being to identify the difference between the old file and the new file.

Claim 7 is rejected on grounds corresponding to the reasons given above for claim 6.

Claims 14-16, 20-22 and 27-29 are rejected on grounds corresponding to the reasons given above for claims 5-7.

Response to Arguments

9. Applicant's arguments filed 31 March 2005 have been fully considered but they are not persuasive.

10. As per applicant's arguments regarding Parker would not preserve multiple, successive modifications to an individual file that may be performed between the scheduled executions of the delta calculations since Parker is schedule based have been considered but are not persuasive. Parker teaches at different times when the file is modified or new files are added, compare the current version of a changed file to the last previous on-site version of the changed file, computing the differences between the two versions (delta), storing the current version and the reverse delta of the changed file on-site while deleting only the last previous on-site version of the changed file, repeating these steps for each changed file, and permanently storing off-site the forward deltas of each changed file (Parker, col. 2, lines 45-67, "7. Repeating steps (4)-(6) for each changed file, and 8. Permanently storing ... deltas", clearly, these step are executed over an

Art Unit: 2162

over in a loop, and the plural form of delta means the multiple, successive modifications are calculated and saved). Therefore, the arguments are not persuasive.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (571) 272-4031.

The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chongshan Chen
May 12, 2005


JEAN M. CORRIELLUS
PRIMARY EXAMINER